COURSE DESCRIPTION: Differential Equations is a study of first order equations, linear equations with constant coefficients, non-homogeneous equations, variation of parameters, series solutions, Laplace Transforms, boundary value problems, Fourier series, systems of differential equations, and applications.

CREDITS/HOURS: 4 credits, 4 hours

PREREQUISITE: MAT-282 Calculus III or by permission of the Department Chair

GENERAL EDUCATION COURSE: No

STUDENT LEARNING OBJECTIVES: Upon successful completion of this course the student will be able to:

2. Calculate solutions to higher-order ordinary differential equations.
4. Utilize the concepts of differential equation theory to model and solve applied problems.

ASSESSMENT MEASURES: Each of the above listed student learning objectives will be assessed by:

1. Written assignments and/or quizzes.
2. Written examinations.
3. Other, as announced by the instructor.

COURSE GRADE: Students should refer to the instructor’s grading policy which will be distributed during the first meeting of the class.

TEXTBOOK: Differential Equations with Boundary-Value Problems, 7th Edition, Zill and Cullen; Cengage Publisher
Optional: Student Solutions Manual, Zill and Wright
### COURSE CONTENT:

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### REFERENCES:

- Differential Equations with Applications, Ritger and Rose, McGraw-Hill.
- Elementary Differential Equations and Boundary Value Problems, Boyce and DiPrima, Wiley.

### ELECTRONIC DEVICES:
The Department of Mathematics prohibits the use of cell-phones, PDA’s, laptops, headphones, IPODs and other such devices in mathematics classes unless otherwise specified in the grading policy provided by the instructor at the beginning of the semester.

### FACULTY ABSENCE PROCEDURE:
“CLASS CANCELLATIONS” may be found by clicking on the bottom of the Bergen Community College website, [www.bergen.edu](http://www.bergen.edu). A list is also posted in a glass case near A-129, the main corridor on the first floor and in Ender Hall. Students may consult these listings before going to class. If a cancelled class is not listed, it should be reported to the Department Office (A-325) or the Adjunct Office (C-107).

### WEBSITE:
Go to [www.bergen.edu/math](http://www.bergen.edu/math) for more information regarding the Mathematics Department.

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